

## WHAT IS CLAIMED IS:

1. A method of removing water from a fluorination process comprising:
  - a) providing at least one water reactive agent comprising a chlorine substituted vinyl compound having from 2 to about 5 carbon atoms;
  - b) providing in said fluorination process a composition containing a reactive organic compound, a fluorination agent and water; and
  - c) introducing said water reactive agent into said composition under conditions effective to substantially reduce the concentration of water in said composition.
2. A method of removing water from a fluorination process stream comprising:
  - a) providing a process stream containing an organic compound, hydrogen fluoride, and water;
  - b) introducing a chlorine substituted vinyl compound having from 2 to about 5 carbon atoms into said process stream;
  - c) reacting said chlorine substituted vinyl compound to form an intermediate reactive with water; and
  - d) removing water from the process stream by hydrolyzing said intermediate with said water.
3. The method of claim 2 wherein the intermediate compound comprises a carbocation.
4. The method of claim 2 wherein said chlorine substituted vinyl compound comprises trichloroethylene and said intermediate comprises a substituted acetaldehyde.

5. The method of claim 2 wherein said intermediate comprises trichloroethylene oxide.
6. The method of claim 2 wherein said reacting step c) comprises reacting said chlorine substituted vinyl compound in the presence of oxygen.
7. The method of claim 6 wherein said reacting step c) comprises reacting said chlorine substituted vinyl compound in the presence of oxygen to form an intermediate comprising trichloroethylene oxide.
8. The method of claim 2 wherein the temperature of said process stream is from about 100°C to about 550°C.
9. The method of claim 2 wherein the pressure of said process stream is from about 50 psig to about 100 psig.
10. The method of claim 4 wherein said 2,2-dichloroacetaldehyde comprises 2,2-dichlorohydroxyacetaldehyde.
11. The method of claim 3 wherein said carbocation has the formula  $\text{Cl}_2\text{-C}^+\text{-R}$ , wherein R is selected from the group consisting of methyl aldehyde, methyl hydroxychloride, and combinations of these.
12. A method of making fluorinated organic compounds comprising the steps of:
  - a.) reacting at least one organic reactive compound under conditions effective to fluorinate said organic reactive compound to produce a reaction mixture, said reaction mixture comprising water; and
  - b.) introducing into said reaction mixture a water reactive agent comprising a chlorine substituted vinyl compound having from 2 to about 5 carbon atoms, said

water reactive agent being effective under the step a) fluorination conditions to remove at least a substantial portion of said water from said reaction mixture.

13. The method in claim 12 wherein said reactive organic compound is a chlorinated vinyl compound.
14. The method in claim 13 wherein said chlorinated vinyl is ethylene having at least one chlorine substituent.
15. The method in claim 14 wherein said chlorinated vinyl compound comprises trichloroethylene.
16. The method of claim 12 wherein said water reactive agent comprises from about 0.05 mole % to 50 mole % of said reaction mixture based on the total weight of the organics plus the weight of the water reactive agent.
17. The method of claim 12 wherein a substantial portion of any water present in the fluorinated organic compound product stream is removed after reacting with a compound selected from the group consisting of trichloroethylene, oxygen, an intermediary product produced by the reaction of trichloroethylene, an intermediary product produced by the reaction of trichloroethylene with oxygen in the presence of an acid, and combinations of two or more of these.
18. The method of claim 12 wherein said reaction step a) comprises reacting said reactive organic compound with hydrogen fluoride in the presence of a fluorination catalyst to form a fluorinated organic compound product stream containing a water by-product.
19. The method of claim 18 wherein said introducing step b) further comprises introducing

oxygen into said reaction mixture.

20. The method of claim 18 wherein said fluorination catalyst comprises chromium.
21. The method of claim 12 wherein the fluorinated organic compound is a hydrofluorocarbon.
22. The method of claim 12 wherein the fluorinated organic compound is a hydrochlorofluorocarbon.
23. A method of removing water from a fluorination process of the type having a process stream containing a reactive organic compound, a fluorination agent and water, the method comprising introducing at least one water reactive agent comprising a chlorine substituted vinyl compound having from 2 to about 5 carbon atoms into said process stream under conditions effective to substantially reduce the concentration of water in said process.